

Alternative Measures of Price Change for GNP, 1965-71

THE implicit price deflator for GNP, a byproduct of the calculation of constant-dollar, or "real", GNP, has been used increasingly over the past several years as a comprehensive composite index of the prices of all the goods and services that make up the GNP. Unlike most price indexes, which are constructed with fixed weights, the GNP deflator is based on shifting weights. This was explained in an article in the March 1969 SURVEY,¹ which carried a table for the period 1965-1968 comparing the behavior of the implicit deflator with that of alternative indexes of GNP prices using fixed weights. That table was

updated through the second quarter of 1970 in the August 1970 SURVEY.

The fixed weighted price indexes were based on 1958 weights and fourth quarter 1965 weights. Because these weights have become outdated, calculation of indexes using them has been discontinued and new fixed weighted indexes based on 1967 weights have been calculated.

Measures of price change based on a chain index were given in the March 1969 and August 1970 SURVEYS and are updated and continued here. In the chain index calculation, quarter-to-quarter percentage changes are weighted by expenditures in the first of the two quarters involved.

Table 1 shows quarter-to-quarter price changes based on implicit deflators,

fixed weighted price indexes with 1967 weights, and chain indexes. Changes are shown for total GNP and its major components from the first quarter of 1965 through the second quarter of 1971. The changes in the implicit deflators and chain indexes for total GNP and for gross private product will be updated on an ongoing basis in table 19 of the national income and product tables published every month in the SURVEY.

Table 2 shows quarterly values of the fixed weighted price indexes calculated with 1967 weights. The indexes are shown on the base 1958=100, the same index base used for the implicit deflators. Historical data for the implicit deflators are available as indicated in the note on page 8.

1. "Alternative Measures of Price Change for GNP" by Allan E. Young and Claudia Harkins, SURVEY OF CURRENT BUSINESS, March 1969.

Table 1.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I—1971-II
(Percent change at annual rate)

	1965											
	I			II			III			IV		
	Implicit deflator	1967 weights	Chain									
Gross national product.....	2.62	2.18	1.96	1.19	2.63	1.99	1.13	1.31	1.40	1.84	2.28	2.11
Personal consumption expenditures.....	1.99	1.96	1.93	1.84	1.82	1.84	-1.89	-1.96	1.01	1.34	1.61	1.63
Durable goods.....	1.42	.79	.96	-1.21	-1.04	-1.23	-2.85	-2.40	-3.63	-1.54	-1.97	-1.40
Nondurable goods.....	2.14	2.10	2.13	2.76	2.70	2.77	2.16	2.18	2.29	2.30	2.37	2.90
Services.....	2.68	2.67	2.68	1.91	2.08	2.01	1.41	1.35	1.37	1.40	1.37	1.38
Gross private domestic investment.....												
Fixed investment.....	.78	.61	.47	1.30	1.44	1.30	1.58	1.62	1.37	2.70	2.31	2.30
Nonresidential.....	2.72	1.45	1.61	1.71	1.54	1.37	1.18	1.14	1.34	2.16	2.30	2.29
Structures.....	3.67	1.66	2.17	2.95	2.68	2.26	5.24	4.31	4.71	4.54	3.94	3.93
Producers' durable equipment.....	1.57	1.26	1.51	.42	.08	.90	-1.54	-1.38	-1.62	1.78	1.54	1.40
Residential structures.....	-2.10	-2.10	-2.10	1.11	1.14	1.11	3.25	3.24	3.26	2.33	2.34	2.33
Change in business inventories.....												
Net exports of goods and services.....												
Exports.....	6.16	7.16	7.13	.84	.38	.10	1.13	1.12	1.15	-1.77	-1.00	-1.38
Imports.....	4.71	4.61	4.61	-1.73	-1.21	-1.15	6.68	7.04	7.02	3.10	3.90	2.99
Government purchases of goods and services.....												
Federal.....	2.04	2.33	2.37	2.76	2.59	2.73	2.42	3.48	3.70	4.47	4.88	4.68
State and local.....	1.81	3.32	2.12	1.13	1.35	1.24	3.35	3.29	3.62	7.60	7.18	7.45
State and local.....	1.82	2.40	2.42	4.28	3.90	4.15	3.45	3.68	3.77	1.33	2.12	2.10
Addendum:												
Gross private product.....	2.08	2.04	1.88	1.94	1.97	1.92	.72	.86	.93	1.30	1.47	1.54

Table I.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I-1971-II—Continued

[Percent change at annual rate]

	1968											
	I			II			III			IV		
	Implicit deflator	1967 weights	Chain									
Gross national product.....	3.14	3.53	3.69	3.97	4.18	4.12	3.53	3.53	3.55	3.43	3.16	3.23
Personal consumption expenditures.....	2.29	3.47	4.49	3.22	3.59	3.88	2.85	2.38	2.27	3.20	3.27	3.27
Durable goods.....	-2.33	-2.81	-2.75	1.78	1.57	1.57	.95	.95	1.09	3.28	3.16	3.17
Nondurable goods.....	4.20	4.28	5.39	2.88	3.56	3.07	2.30	2.35	2.40	2.85	2.72	2.71
Services.....	3.35	3.55	3.87	3.79	3.92	3.90	2.77	2.91	3.51	3.75	3.95	3.99
Gross private domestic investment.....	1.13	1.75	1.77	2.31	4.91	4.05	3.31	4.11	4.15	3.22	3.07	3.27
Fixed investment.....	.93	1.85	1.55	2.65	4.19	4.14	3.80	4.12	4.18	4.64	3.75	3.78
Nonresidential.....	1.78	2.65	2.42	4.72	5.25	5.22	4.58	5.54	5.28	3.13	2.88	2.89
Structures.....	.70	1.11	1.05	3.59	3.85	3.55	3.29	3.41	3.45	2.44	2.24	2.27
Producers' durable equipment.....	2.38	2.40	2.98	2.71	2.72	3.72	4.05	4.07	4.07	2.85	2.94	2.98
Residential structures.....												
Change in business inventories.....												
Net exports of goods and services.....	2.53	2.52	3.24	5.17	5.29	5.29	5.07	5.09	5.09	4.28	4.28	5.28
Exports.....	-1.02	-1.51	-1.04	4.08	4.44	4.45	1.12	1.22	1.29	1.50	1.50	1.82
Imports.....	2.71	3.47	4.16	4.85	5.59	5.59	4.95	4.97	4.95	2.82	2.78	2.12
Government purchases of goods and services.....	-1.75	1.28	1.21	3.47	4.89	4.73	3.03	4.32	4.28	3.23	2.25	2.24
Federal.....	4.35	4.28	3.55	5.29	6.43	6.51	6.59	6.59	6.74	4.03	4.04	4.05
State and local.....												
Addendum: Gross private product.....	2.88	3.28	3.55	3.92	4.22	4.15	3.24	3.24	3.28	3.15	3.24	3.44

Table I.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I-1971-II—Continued

[Percent change at annual rate]

	1967											
	I			II			III			IV		
	Implicit deflator	1967 weights	Chain									
Gross national product.....	2.54	2.29	2.52	2.25	2.55	2.53	4.03	3.87	4.87	4.74	4.54	4.55
Personal consumption expenditures.....	1.94	1.43	1.54	1.45	2.09	2.09	3.65	3.25	3.27	2.21	3.24	3.27
Durable goods.....	.28	.85	1.04	-1.29	1.44	1.44	2.58	4.34	4.59	4.57	4.05	4.71
Nondurable goods.....	.79	.80	1.92	1.75	1.75	1.75	3.21	3.17	3.18	3.87	2.47	2.49
Services.....	2.08	2.75	2.75	2.85	3.08	3.08	3.15	2.85	2.95	2.54	3.98	3.51
Gross private domestic investment.....	3.04	2.39	2.55	3.89	3.55	3.54	8.72	5.98	5.72	4.06	3.89	3.80
Fixed investment.....	2.17	2.27	2.20	1.69	2.80	2.89	4.55	4.18	4.30	3.25	4.04	4.03
Nonresidential.....	4.94	2.77	2.80	3.75	4.25	4.18	7.09	5.89	6.25	4.24	4.09	4.20
Structures.....	1.75	2.02	2.05	2.18	2.18	2.15	3.08	2.85	2.85	3.80	4.02	4.00
Producers' durable equipment.....	2.85	2.68	3.09	5.89	5.95	5.95	11.23	11.23	11.31	3.81	2.80	3.80
Residential structures.....												
Change in business inventories.....												
Net exports of goods and services.....	-1.51	-1.41	-1.33	-1.82	-1.85	-1.85	1.20	1.42	1.42	-1.04	-1.24	-1.34
Exports.....	1.04	1.29	1.38	-1.97	-2.24	-2.23	2.29	2.20	2.19	-3.98	-3.22	-3.21
Imports.....	3.13	4.53	4.27	3.29	3.36	3.34	4.25	4.77	4.78	7.31	7.49	7.69
Government purchases of goods and services.....	2.89	3.34	4.57	-1.45	1.23	1.27	3.09	2.17	2.12	8.28	9.07	8.85
Federal.....	4.40	5.09	4.97	6.08	6.62	6.60	7.85	7.47	7.50	4.78	6.23	6.35
State and local.....												
Addendum: Gross private product.....	2.24	1.61	1.74	1.97	2.34	2.30	3.85	3.55	3.81	2.78	3.53	3.64

Table 1.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I—1971-II—Continued

(Percent change at annual rate)

	1968											
	I			II			III			IV		
	Implicit deflator	1967 weights	Chain									
Gross national product.....	3.62	3.86	3.97	3.69	4.53	4.53	4.34	4.72	4.70	4.69	4.63	4.56
Personal consumption expenditures.....	3.58	4.51	4.51	4.62	4.09	4.05	3.82	3.32	3.29	4.23	4.17	4.16
Durable goods.....	2.27	2.84	2.88	2.85	2.23	2.28	2.20	2.02	2.80	3.67	3.67	3.50
Nondurable goods.....	4.55	4.97	4.07	4.23	4.80	4.38	3.41	3.48	3.45	4.03	4.09	4.10
Services.....	4.43	4.93	4.63	4.43	4.30	4.30	4.62	3.20	3.28	4.28	4.45	4.45
Gross private domestic investment.....	1.63	1.98	1.87	1.07	5.17	5.10	4.22	5.61	5.71	4.22	4.26	4.22
Fixed investment.....	1.09	1.88	1.89	3.33	4.20	4.23	3.20	4.60	4.57	4.33	4.09	4.67
Nonresidential.....	1.45	2.88	2.78	5.07	6.48	6.24	6.72	7.74	7.72	4.43	7.28	7.30
Structures.....	1.25	2.34	2.43	2.40	3.38	3.10	2.62	3.08	2.98	3.08	3.32	3.34
Producers' durable equipment.....	1.84	1.85	1.63	3.10	6.14	6.18	3.54	6.63	6.64	2.63	2.88	2.88
Residential structures.....												
Change in business inventories.....												
Net exports of goods and services.....												
Exports.....	-3.07	-4.26	-4.28	0.04	10.06	10.06	-1.41	-1.50	-1.50	1.50	2.00	2.09
Imports.....	3.11	3.42	2.42	5.71	5.34	5.34	-1.38	-1.34	-1.38	1.04	1.37	1.27
Government purchases of goods and services.....	4.29	5.37	5.28	3.15	4.44	4.42	3.45	3.13	3.07	6.73	6.66	5.89
Federal.....	2.58	4.22	4.23	1.55	2.68	2.68	3.65	3.05	3.08	4.82	5.01	5.07
State and local.....	5.79	6.34	6.38	5.04	6.37	6.36	7.77	7.83	7.39	6.04	6.31	6.31
Addenda:												
Gross private product.....	3.36	3.58	3.49	2.68	4.33	4.23	3.59	3.08	3.07	4.43	4.30	4.29

Table 1.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I—1971-II—Continued

(Percent change at annual rate)

	1969												1970		
	I			II			III			IV			I		
	Implicit deflator	1967 weights	Chain												
Gross national product.....	4.53	4.67	4.65	5.34	5.08	5.84	5.12	6.68	6.53	4.81	4.81	4.68	6.61	5.92	5.73
Personal consumption expenditures.....	3.48	4.14	4.11	5.29	5.32	5.24	5.06	4.24	4.86	4.74	4.90	4.83	5.12	4.77	4.88
Durable goods.....	1.44	1.84	1.87	2.98	3.17	3.06	2.72	2.00	2.00	1.94	2.11	2.08	2.87	2.45	2.04
Nondurable goods.....	3.26	3.76	3.73	5.34	6.70	5.86	4.02	4.38	4.88	4.38	5.50	6.40	6.20	4.48	4.30
Services.....	4.33	5.46	5.45	5.73	5.67	5.86	5.52	5.50	5.57	4.91	5.17	5.15	6.06	4.98	4.92
Gross private domestic investment.....	6.45	6.60	5.77	4.02	8.11	8.04	5.21	5.46	5.32	2.49	2.85	3.30	5.40	4.11	4.11
Fixed investment.....	4.49	4.62	4.49	4.62	5.89	5.57	4.93	5.72	5.57	3.34	4.20	4.11	6.22	4.74	4.72
Nonresidential.....	11.19	9.14	9.00	9.52	9.63	9.45	10.77	9.62	9.40	4.96	5.48	5.50	5.45	4.04	4.06
Structures.....	2.37	2.17	2.15	3.07	4.14	4.08	3.40	3.67	3.68	3.24	3.40	3.35	5.74	5.12	5.07
Producers' durable equipment.....	9.57	9.67	9.50	6.51	6.51	6.51	4.57	4.68	4.58	.88	.67	.88	2.09	2.10	2.08
Residential structures.....															
Change in business inventories.....															
Net exports of goods and services.....															
Exports.....	4.53	5.52	5.61	-3.05	-3.97	-4.06	10.10	10.34	10.24	11.44	11.21	11.20	3.47	2.53	3.53
Imports.....	2.80	1.81	1.40	2.10	2.82	3.83	5.58	6.31	6.20	12.60	13.10	12.08	7.12	7.08	7.10
Government purchases of goods and services.....	4.73	4.47	4.44	7.38	5.52	5.58	11.09	10.35	10.71	6.44	5.58	5.50	11.37	10.31	10.96
Federal.....	3.02	2.80	2.82	6.90	4.06	4.15	15.73	15.68	15.81	6.08	5.51	5.41	16.13	13.73	13.95
State and local.....	5.61	6.37	6.30	6.50	6.97	6.03	7.01	6.44	6.32	4.07	5.06	5.58	7.22	8.13	8.15
Addenda:															
Gross private product.....	4.59	4.70	4.60	5.25	5.80	5.07	4.83	6.46	6.38	4.64	4.60	4.48	5.37	4.50	4.45

Table 1.—Price Changes as Measured by Implicit Deflators, Fixed Weighted Price Indexes, and Chain Indexes, Quarterly, 1965-I—1971-II—Continued

[Percent change at annual rate]

	1970						1971								
	II			III			IV			I			II		
	Implicit deflator	1967 weights	Chain												
Gross national product.....	4.66	4.12	5.61	4.90	4.80	4.76	5.33	6.27	5.47	5.26	6.67	6.41	4.18	4.69	4.69
Personal consumption expenditures.....	4.37	4.55	4.53	3.84	3.88	3.91	5.78	5.95	6.30	3.78	5.38	6.16	3.93	4.49	4.38
Durable goods.....	1.90	2.06	1.05	2.22	3.29	3.56	6.09	6.37	6.25	6.16	6.98	6.18	1.82	1.81	1.85
Nondurable goods.....	4.18	4.32	4.15	2.33	2.01	2.85	3.45	3.41	3.41	2.70	2.98	2.88	3.81	4.28	4.88
Services.....	5.02	5.85	5.85	5.11	5.42	5.41	6.13	6.41	6.42	7.13	7.18	7.18	5.44	6.60	6.88
Gross private domestic investment.....	4.28	5.58	5.50	6.71	7.73	7.80	6.78	6.14	6.51	4.07	4.81	4.64	5.71	6.60	5.71
Fixed investment.....	4.28	5.58	5.50	6.71	7.73	7.80	6.78	6.14	6.51	4.07	4.81	4.64	5.71	6.60	5.71
Nonresidential.....	5.81	6.88	6.85	6.78	7.43	7.54	6.14	7.27	7.04	2.78	3.29	3.22	4.68	6.41	6.54
Structures.....	7.60	10.66	10.23	12.63	13.92	14.30	18.61	10.14	10.76	4.24	2.68	1.64	16.28	14.72	15.60
Producers' durable equipment.....	3.83	4.58	4.53	4.63	3.96	3.06	6.73	5.67	6.88	2.70	4.11	4.00	1.60	2.02	1.75
Residential structures.....	2.05	2.05	2.06	6.87	6.70	6.68	2.48	2.47	2.45	9.03	9.85	9.09	6.08	6.01	6.82
Change in business inventories.....															
Net exports of goods and services.....															
Exports.....	2.80	2.02	2.02	0.84	5.00	5.08	.40	.08	.68	12.12	11.94	11.08	-.02	.02	.02
Imports.....	0.32	6.00	5.17	12.89	12.87	12.01	.67	.73	.74	6.37	6.43	6.58	1.22	1.42	1.40
Government purchases of goods and services.....	16.14	7.16	3.11	6.43	5.97	6.94	6.34	5.82	6.07	16.49	5.79	6.84	6.02	5.39	5.39
Federal.....	11.18	0.16	0.08	0.92	3.07	3.70	3.48	2.72	3.05	15.00	12.68	13.78	2.82	3.18	2.93
State and local.....	6.00	6.19	3.02	0.42	18.08	0.96	6.30	6.38	3.45	6.44	6.82	6.63	5.45	7.48	7.06
Addendum: Gross private product.....	4.13	4.72	4.62	4.92	4.69	4.54	6.20	6.24	6.41	4.50	5.51	6.47	4.18	4.90	4.85

Table 2.—Fixed Weighted Price Indexes, 1967 Weights, 1965-I—1971-II

(1958=100)

	1965				1966				1967			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross national product.....	119.011	116.685	110.825	111.604	112.478	113.627	114.616	115.517	116.165	116.891	117.997	118.314
Personal consumption expenditures.....	108.230	108.728	106.978	109.289	110.326	111.383	111.938	112.643	112.278	112.886	114.772	116.719
Durable goods.....	100.288	100.037	99.167	98.701	98.075	98.483	98.882	99.422	98.436	99.545	100.611	101.782
Nondurable goods.....	105.884	106.803	107.189	107.490	108.314	110.379	111.029	111.778	112.019	112.608	113.890	114.888
Services.....	114.300	114.937	116.324	115.716	116.824	117.951	118.771	119.609	120.739	121.638	122.590	123.674
Gross private domestic investment.....	108.205	108.601	109.027	109.651	110.128	111.218	112.240	113.329	113.993	114.604	116.636	117.684
Fixed investment.....	108.205	108.601	109.027	109.651	110.128	111.218	112.240	113.329	113.993	114.604	116.636	117.684
Nonresidential.....	106.770	107.187	107.491	108.103	108.823	109.617	110.750	111.782	113.360	113.184	114.362	115.400
Structures.....	113.266	113.950	116.137	116.287	116.072	113.474	110.081	120.020	121.708	122.080	124.106	125.584
Producers' durable equipment.....	109.008	104.182	104.961	104.900	104.748	105.661	106.551	107.063	106.202	106.782	108.647	110.631
Residential structures.....	113.229	113.640	114.589	115.214	115.807	116.489	118.123	118.084	118.754	121.600	124.303	128.573
Change in business inventories.....												
Net exports of goods and services.....												
Exports.....	104.537	104.683	104.875	104.611	105.400	106.361	106.427	106.831	106.710	106.985	108.619	110.014
Imports.....	102.829	102.270	104.024	104.771	104.658	105.608	106.044	106.634	106.902	106.272	106.851	106.963
Government purchases of goods and services.....	116.738	117.468	118.497	119.861	120.944	122.437	124.271	124.917	126.328	127.374	128.667	131.215
Federal.....	112.802	113.183	114.102	116.002	116.454	117.858	119.104	119.181	120.103	120.548	121.196	124.026
State and local.....	121.223	122.301	123.504	124.164	124.000	124.687	124.187	124.442	123.348	126.150	127.606	129.403
Addendum: Gross private product.....	109.041	108.520	108.804	109.201	110.085	111.232	112.114	113.032	113.805	114.150	116.229	116.224

	1968				1969				1970				1971	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
Gross national product.....	120.486	121.790	121.302	124.684	126.836	127.606	129.671	131.281	133.301	134.772	136.361	138.124	140.346	143.854
Personal consumption expenditures.....	117.002	118.719	118.147	120.373	121.688	123.183	124.879	126.180	127.689	128.085	129.379	131.844	133.680	136.134
Durable goods.....	102.478	103.006	103.811	104.780	105.176	105.980	106.810	107.398	107.974	108.470	109.381	111.063	112.645	114.419
Nondurable goods.....	115.473	116.722	117.724	118.908	120.062	121.084	123.171	124.823	126.833	127.818	128.843	129.721	130.029	132.021
Services.....	121.088	122.434	122.481	123.854	124.878	125.320	126.104	126.898	127.666	128.260	128.980	129.594	130.187	131.344
Gross private domestic investment.....	118.228	119.719	121.356	122.389	124.347	126.204	127.863	129.951	130.285	132.031	134.510	136.628	138.341	140.357
Fixed investment.....	118.228	119.719	121.356	122.389	124.347	126.204	127.863	129.951	130.285	132.031	134.510	136.628	138.341	140.357
Nonresidential.....	116.013	117.236	118.560	119.925	121.268	123.033	124.786	126.044	127.519	128.860	131.024	134.260	135.448	137.600
Structures.....	128.625	128.639	129.987	129.369	130.255	129.392	142.828	144.543	146.082	146.001	154.819	158.428	160.481	161.051
Producers' durable equipment.....	111.223	112.187	113.020	113.948	114.659	115.724	116.771	117.789	118.268	120.066	121.771	123.482	124.711	125.330
Residential structures.....	120.184	120.644	121.494	122.380	123.453	124.500	125.170	126.404	126.127	126.889	128.008	128.667	129.822	130.813
Change in business inventories.....														
Net exports of goods and services.....														
Exports.....	108.828	111.501	111.298	111.874	113.205	112.263	113.889	116.164	118.163	118.780	121.834	121.740	123.228	125.225
Imports.....	104.659	106.373	108.040	108.358	108.720	109.479	110.903	114.879	116.942	117.785	121.414	121.636	123.888	124.698
Government purchases of goods and services.....	122.938	124.382	125.014	126.044	126.672	127.474	128.223	128.223	129.199	129.763	129.993	129.589	129.323	129.453
Federal.....	124.314	126.129	126.871	128.682	129.642	129.642	129.642	129.642	130.642	131.145	131.745	131.745	132.313	134.509
State and local.....	141.568	143.730	143.891	145.615	146.928	147.831	148.580	148.580	149.553	149.553	149.553	149.553	149.553	149.553
Addendum: Gross private product.....	117.281	118.411	119.672	120.965	122.263	123.381	124.384	125.644	126.388	127.078	128.375	129.063	130.559	131.512